

REMARKS

Reconsideration and allowance in view of the following remarks are respectfully requested.

By this amendment, claims 3, 4, 6-18, 20, 22 and 24-28 remain pending, claim 24 having been amended.

Rejection of Claims 3, 4, 6-18, 20, 22 and 24-28

On page 2 of the Office Action, the Examiner rejected claims 3, 4, 6-18, 20, 22 and 24-28 under 35 U.S.C. 103(a) as allegedly being unpatentable over U.S. Patent No. 6,185,619 to Joffe et al. (“Joffe”) in view of U.S. Patent No. 6,820,133 to Grove et al. (“Grove”). Applicants traverse the rejection with respect to claims 3, 4, 6-18, 20, 22 and 25-28. Applicants submit that amended claim 24 obviates the rejection.

Amended independent claim 3 is directed to a method of serving content in a packet-switched network. The method includes, among other things, choosing from a plurality of content distribution networks which content distribution network will respond to a content request from a client, wherein one of the plurality of content distribution networks is chosen only if a measured load of the one of the plurality of content distribution networks does not exceed a predetermined capacity reserved on the one of the plurality of content distribution networks.

On page 3 of the non-Final Office Action, the Examiner admitted that Joffe does not specifically disclose the above-mentioned feature. The Examiner relied on Grove, at col. 3, lines 9-22, and col. 12, lines 32-49, to disclose or suggest the above-mentioned feature. Applicants respectfully disagree.

Grove, at col. 3, lines 9-22, discloses:

A Content Distribution service includes a redirection or interception service. When a web user (using a client such as a browser) requests content from a site, and the content is known or suspected to be cached at one or more CD

nodes, the request is directed (or comes to be redirected) to some CD node that is “close” to the user. The notion of closeness is a measure of communications performance, and in particular can use such metrics as bandwidth capacity, bandwidth cost, latency, security, administrative boundaries, administrative convenience, and current congestion on various network paths. The technologies for choosing a close CD node and then directing requests to the chosen node are varied, but the field is still new and there is still considerable ongoing innovation.

Thus, Grove discloses that when a user requests content and the content is known or suspected to be cached at one or more content distribution nodes, the request is directed to a content distribution node that is “close” to the user. Further, Grove discloses that the concept of closeness is a measure of communications performance, such as, bandwidth capacity, bandwidth cost, latency, security, administrative boundaries, administrative convenience, and current congestion on various network paths. However, Grove is completely silent with respect to any disclosure or suggestion of reserving a predetermined capacity on one of the content distribution networks. Therefore, Grove does not disclose or suggest that one of the plurality of content distribution network is chosen only if a measured load of the one of the plurality of content distribution networks does not exceed a predetermined capacity reserved on the one of the plurality of content distribution networks, as required by claim to 3.

Grove, at col. 12, lines and 32-49, discloses:

In a preferred embodiment, the invention includes or uses means, called herein a “redirection system,” such that certain web traffic, including requests for web content, is communicated to a selected C-node instead of being communicated directly to the server that would ordinarily deliver such content. The redirection system arranges for traffic to be sent to the selected C-node, which is chosen to be close to the client or chosen by other similar performance-relevant criteria, and then intercepted by such a C-node. In some circumstances, the redirection system performs the functions of the selection system as well as providing redirection. The following alternative embodiments of the redirection system are provided as examples. However, this list is not intended to be exhaustive and the invention contemplates other means that can be used instead. Furthermore, as one skilled in the art will appreciate, many combinations or variants of methods in the following list can serve as redirection means.

Thus, Grove discloses that traffic may be sent to a selected C-node, which is chosen to be close to the client or chosen based on other performance-related criteria. However, Grove is

completely silent regarding any disclosure or suggestion of a predetermined capacity being reserved. Therefore, Grove does not disclose or suggest that one of the plurality of content distribution network is chosen only if a measured load of the one of the plurality of content distribution networks does not exceed a predetermined capacity reserved on the one of the plurality of content distribution networks, as required by claim to 3.

For at least the reasons discussed above, Applicants submit that neither Joffe nor Grove disclose or suggest, either separately or in combination, one of a plurality of content distribution networks being chosen only if a measured load of the one of the plurality of content distribution networks does not exceed a predetermined capacity reserved on the one of the plurality of content distribution networks, as required by claim 3 and claims 4 and 6-18, which depend from claim 3 either directly or as a base claim. Therefore, Applicants submit that claim 3 and dependent claims 4 and 6-18 are patentable over Joffe in view of Grove for at least the reasons discussed above. Applicants, therefore, respectfully request that the rejection of claims 3, 4 and 6-18 be withdrawn.

Independent claim 22 is directed to a brokering domain server including, among other things, a policy module which directs a domain name system engine to answer domain name system queries in accordance with a predetermined policy which resolves a domain name to a server in a content distribution network chosen from a plurality of content distribution networks, wherein the policy module further includes an interface to information received from the plurality of content distribution networks and wherein the policy module modifies the predetermined policy in response to the information, and the information further includes load information and the predetermined policy reflects capacity reserved on each of the plurality of content distribution networks.

For at least reasons similar to those discussed with respect to claim 3, Applicants submit that both Joffe and Grove do not disclose or suggest that capacity is reserved on each of the content distribution networks, as required by claim 22.

Further, on page 8 of the Office Action, the Examiner alleged that Joffe, at col. 5, lines 45-59, discloses that the information further includes load information and the predetermined policy reflects capacity reserved on each of the content distribution networks, as required by claim 22. Applicants disagree.

Joffe, at col. 5, lines 41-67, discloses:

The user interface input devices typically includes a keyboard and may further include a pointing device and a scanner. The pointing device may be an indirect pointing device such as a mouse, trackball, touchpad, or graphics tablet, or a direct pointing device such as a touchscreen incorporated into the display. Other types of user interface input devices, such as voice recognition systems, are also possible.

The user interface output devices typically include a printer and a display subsystem, which includes a display controller and a display device coupled to the controller. The display device may be a cathode ray tube (CRT), a flat-panel device such as a liquid crystal display (LCD), or a projection device. Display controller provides control signals to the display device and normally includes a display memory for storing the pixels that appear on the display device. The display subsystem may also provide non-visual display such as audio output.

The memory subsystem typically includes a number of memories including a main random access memory (RAM) for storage of instructions and data during program execution and a read only memory (ROM) in which fixed instructions are stored. In the case of Macintosh-compatible personal computers the ROM would include portions of the operating system; in the case of IBM-compatible personal computers, this would include the BIOS (basic input/output system).

Applicants submit that the cited portion of Joffe has nothing at all to do with the feature that the Examiner alleges is disclosed by Joffe. Joffe is absolutely silent with respect to such a feature.

MPEP §2142 states:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicants submit that the Examiner failed to show that the prior art references, when combined, teach or suggest all of the claim limitations of claim 22. Therefore, Applicants submit that the Examiner failed to make a proper *prima facie* case of obviousness with respect to independent claim 22.

For at least the reasons discussed above, Applicants respectfully request that the rejection of claim 22 and claim 20, which depends from claim 22, be withdrawn.

Amended independent claim 24 is directed to a method of redirecting content requests between content distribution networks. The method includes, among other things, choosing one of a plurality of content distribution networks to serve embedded content, the one of the plurality of content distribution networks being chosen only if a measured load of the one of the plurality of content distribution networks does not exceed a predetermined capacity reserved on the one of the plurality of content distribution networks.

For at least reasons similar to those discussed with respect to claim 3, Applicants submit that both Joffe and Grove do not disclose or suggest that capacity is reserved on the content distribution networks, as required by claim 24. Therefore, neither Joffe nor Grove disclose or suggest, either separately or in combination, the above-mentioned feature required by claim 24. Applicants respectfully request that the rejection of claim 24 be withdrawn.

Independent claim 25 recites features similar to those of independent claim 3. Applicants submit that independent claim 25 and dependent claims 26-28 are patentable over Joffe in view of Grove for at least reasons similar to those provided with respect to claim 3. Therefore, Applicants respectfully request that the rejection of claims 25-28 be withdrawn.

On page 9 of the non-Final Office Action, the Examiner alleged that Grove, at col. 24, lines 37-67, and at col. 14, lines 4-54, discloses choosing a content distribution network only if a measured load of the content distribution network does not exceed a predetermined

capacity reserved on the content distribution network, as required by claim 25. Applicants respectfully disagree.

Grove, at column 24, lines 37-67, discloses:

As an example, one embodiment of a C-node is further explained using FIGS. 3, 7, 8, and 9. FIG. 8 represents an overview of the steps taken by a C-node when it receives an HTTP request from a client, as in step 800. There may be more than one IP address that clients can use to communicate with the C-node. But it is possible, using common network technologies, to identify and record the IP address that was used to contact a machine, and the C-node does this, also in step 800. The C-node must now reconstruct the name of the server for which the request is intended. The C-node examines the HTTP request header, in step 801, and if the header contains the name of the server as discussed above for the HTTP Protocol Information technique, the C-node extracts this name from the header in step 802. Otherwise, it performs IP address sorting as described above, in step 803. Specifically, in this case it consults a local table or database such as database 900 in FIG. 9, which contains an association between IP addresses and server names. This table may be periodically maintained by a separate process, as discussed above, and in this example should be coordinated and kept consistent with a database such as database 300 in FIG. 3 that may be used by specialized DNS server.

The C-node inspects its cache, in step 804, to see if it holds a suitably fresh copy of the requested object which it can immediately return to the client in step 810. It will be appreciated that caching allows many known refinements and additions, which may be used here, but in this illustration we consider only a simple implementation of a cache. If the request cannot be answered using the cache, the C-node consults a table or database such as database 700 shown in FIG. 7.

Thus, Grove discloses a C-node receiving an HTTP request from a client, and identifying and recording the IP address used to contact a machine. However, the above cited portion of Grove, as well as any other portion of Grove, does not disclose or suggest choosing a content distribution network only if a measured load of the content distribution network does not exceed a predetermined capacity reserved on the content distribution network. Further, Grove does not disclose or suggest a means for choosing a content distribution network from a plurality of content distribution networks for responding to a content request from a client being configured to choose a content distribution network only if the measured load of the

content distribution network does not exceed a predetermined capacity reserved on the content distribution network, as required by claim 25.

Grove, at col. 14, lines 4-54, discloses:

A variant of DNS redirection involves using a new domain name, such as "www.cnode.com" or "www.someserver-cnode.com", that is distinct from the server's domain name. The DNS system is configured to return a different IP address for this new name depending on the requesting client, such IP address identifying a C-node close to the client. In this approach, the actual server keeps its original name, for instance "www.someserver.com", and DNS maps this name to server's correct IP address (and not to a C-node's address).

When the server delivers content, the content may contain references to yet other web objects. In particular, pages in HyperText Markup Language (HTML) can contain references to other objects held on the server or elsewhere. In this variant of DNS redirection, the server can refer to an object using its own name (e.g., if the object is called "home.html" and the site is named "www.someserver.com," the URL may be "HTTP: [//www.someserver.com/home.html](http://www.someserver.com/home.html)") if it does not want the object to be handled by the invention, and can refer using the new name (e.g., "HTTP: [//www.cnode.com/someserver/home.html](http://www.cnode.com/someserver/home.html)" or "HTTP: [//www.someserver-cnode.com/home.html](http://www.someserver-cnode.com/home.html)") in order to have such content handled by the invention.

One advantage of this method is that a DNS lookup request providing the web server's name will receive the server's true address in return.

HTTP Redirection.

Versions of the HTTP protocol include various "redirection" commands and responses. When a client requests content from a site, it may receive a response that does not include the requested content, but instead names an alternative location where the content can be found. These will be referred to as HTTP redirection responses. Most web clients are configured to automatically go to the suggested location without needing additional user feedback.

To use HTTP redirection as part of the invention's redirection mechanism, a request will initially be sent to a fixed destination, which may be the server itself or else some other specialized node, but which has not necessarily been chosen to be close to the client or according to performance-related criteria. This node can use the address of the requesting client to select a C-node that is near to that client, and then HTTP redirect the client to use that C-node. This selection can be done by the server itself, running software for this purpose, or the server can query another specialized computer. A variant of this method is that request is initially sent to the server, which HTTP redirects the request to another specialized computer that is capable of selecting a C-node, and then

this specialized computer performs a second HTTP redirection to the chosen C-node.

Thus Grove, discloses that a node may receive a request and may use the address of a requesting client to select a C-node that is near the client. The receiving node may then HTTP redirect the client to use these selected C-node. However, the above cited portion of Grove, as well as any other portion of Grove, does not disclose or suggest choosing a content distribution network only if a measured load of the content distribution network does not exceed a predetermined capacity reserved on the content distribution network. Further, Grove does not disclose or suggest a means for choosing a content distribution network from a plurality of content distribution networks for responding to a content request from a client being configured to choose a content distribution network only if they measured load of the content distribution network does not exceed a predetermined capacity reserved on the content distribution network, as required by claim 25.

For at least the reasons discussed above, Applicants submit that claim 25 and claims 26-28, which depend from claim 25 either directly or as a base claim, are patentable over at Joffe in view of Grove. Therefore, Applicants respectfully request that the rejection of claims 25-28 be withdrawn.

CONCLUSION

Having addressed all rejections, Applicants respectfully submit that the subject application is in condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,

Date: August 18, 2006

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